Demonstrating the use of station-specific, in-situ phase center maps:
A Re-analysis of data from the Southern California Integrated Geodetic Network

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A re-analysis of the 1997 data from SCIGN demonstrates that some stations show a significant improvement in the daily repeatability when a site-specific phase map is used. The improvement is mostly in the vertical component.

For many stations, the use of a station-specific phase map reduces the effect of the elevation angle cutoff during processing on the station height estimate. It is not possible to achieve the same level of insensitivity to the elevation angle cutoff using generic, antenna-specific phase maps. This suggests that the local environment is often more important than the intrinsic phase pattern of the antenna for choke ring antennas.

Several stations have collected less data at low elevation with time. For a station which has a decreasing percentage of data collected at low elevation through time, and which has an elevation angle cutoff dependence, the station height will have an apparent drift which is not real.

An assessment of the frequency of occurrence of this potential error will be presented using the data from the SCIGN network.